



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

68

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,668	02/09/2004	Robert Mack	5087-143	1456
20575	7590	02/07/2007	EXAMINER	
MARGER JOHNSON & MCCOLLOM, P.C. 210 SW MORRISON STREET, SUITE 400 PORTLAND, OR 97204			TAYONG, HELENE E	
		ART UNIT		PAPER NUMBER
				2609
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	02/07/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/775,668	MACK ET AL.
	Examiner	Art Unit
	Helene Tayong	2609

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 09 February 2004.
2a) This action is FINAL. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 1,4,5,6,9-12 and 15-20 is/are rejected.
7) Claim(s) 2,3,7,8,13 and 14 is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
10) The drawing(s) filed on 09 February 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date: _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

In the specification, page 5, lines 17, the statement, “**the PN- storage device 60 could include the flip-flops 30 previous shown in fig. 3.**” should be replaced with fig. 2.

Appropriate correction is required.

Claim Objections

2. Claims 2- 8 and 10 are objected to because of the following informalities:
 - (1) In claims 2-8, the word “spread spectrum” in front of encoder should be removed to be consistent with the preamble “ an encoder”.
 - (2) In claim 10, line 1, should be “claim 9” in order to have sufficient antecedent basis for spread spectrum correlator.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,6,9,10 and15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Driest (US 6115411).

(1) with regards to claim 1;

a spread spectrum encoder (fig. 204) configured to encode data values with one or more spread spectrum codes and generate a corresponding spread spectrum encoded data stream (col. 3, lines 14-21); and

a slip encoder configured to encode other data values into the encoded data stream by varying time spacing between the spread spectrum codes (fig. 4, col. 9, lines 43-46).

(2) with regards to claim 6;

the slip encoder includes a slip counter (33,fig. 9a) that delays the code counter from outputting the chips for adjacent spread spectrum codes according to associated data values (col. 8, lines 25-33).

(3) with regards to claim 9;

a spread spectrum decoder configured to decode data from a spread spectrum encoded data stream (col. 10, lines 19-24); and

a slip decoder configured to decode additional data associated with different time gaps between codes in the spread spectrum encoded data stream (col. 10, lines 18-28);

(4) with regards to claim 10;

a number of time units associated with the time gaps corresponds with different data values (col. 6, lines 65-67 to col. 7, lines 1-5)

(5) with regards to claim 15;

a data inverter identifying inverted data values output from the slip decode and

inverting bits for the identified inverted data values (col.9, lines 35-39) .

4).

(6) with regards to claim 16;

encoding a first set of data values into an encoded data stream using spread spectrum Pseudo Noise (PN) codes (fig.2, 206, col. 6, lines 63-66);
and encoding a second set of data values into the encoded data stream by varying rates that the PN codes are output in the encoded data stream (fig. 2, 206, col. 7, lines 1-5).

(7) with regards to claim 17;

inserting a number of time increments between adjacent PN codes corresponding to the second set of data values (col.7, lines 6-10)

(8) with regards to claim 18;

transmitting and receiving the encoded data stream using a wireless Universal Serial Bus (USB) device (IEEE 802.11 standard, col. 5, lines 29-31).

(9) with regards to claim 19;

extracting the first set of data from the encoded data stream by identifying the PN codes in the encoded data stream and extracting the second set of data from the encoded data stream by identifying an amount of time gap between the identified PN codes (col. 7, lines 58-68 to col.8, lines 1-4).

(10) with regards to claim 20;

comparing samples of the encoded data stream with reference PN codes (Col. 8, lines 1-4);

identifying bits in the second set of data values according to the amount of identified time slip. (col. 8, lines 8-12).

identifying an amount of time slip between the identified bits in the first set of data values (col. 7, lines 57-61);

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4,5,11 and12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Driest (US 6115411) in view of the Admitted Art, fig. 2 and fig. 3).

(1) with regards to claim 4;

Van Driest further discloses a spread spectrum (SS) encoder (fig. 204). Van Driest further discloses all of the subject matter as described above except for specifically teaching that the spread spectrum includes a storage device used for storing the one or more spread spectrum codes and a shifter for serially encoding some of the data values with the one or more spread spectrum codes.

Art Unit: 2609

However, the admitted art teaches the spread spectrum encoder includes a storage device used for storing the one or more spread spectrum codes and a shifter(pg. 2,lines 7-9).

One of ordinary skill in the art would have clearly recognized that to increase the data transmission rate in SS system and improve performance, a storage device used for storing the one or more spread spectrum codes and a shifter for serially encoding some of the data values with the one or more spread spectrum codes was required.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a storage device and the shifter to the SS system of Van Driest in order to have codes ready as needed by the shift register.

(2) with regards to claim 5;

Van Driest further discloses a spread spectrum encoder (fig. 204). Van Driest further discloses all of the subject matter as described above except for (a) specifically teaching the spread spectrum encoder includes a multiplexer having inputs for receiving different chips of the spread spectrum codes and an output.

(b) specifically teaching the spread spectrum encoder includes a code counter coupled to the multiplexer sequentially selecting different chips of the spread spectrum codes for outputting from the multiplexer.

(c) specifically teaching that the spread spectrum encoder includes an exclusive-OR circuit combining the outputs from the multiplexer with the data values .

Art Unit: 2609

1) Regarding item (a)

However, the admitted art teaches the spread spectrum encoder includes a multiplexer having inputs for receiving different chips of the spread spectrum codes and an output (col.pg.2, lines 9).

One of ordinary skill in the art would have clearly recognized that to select one of many data-sources and outputs that source into one channel, a multiplexer that sequentially selects different chips would have help to reduce cost.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a multiplexer having inputs for receiving different chips of the spread spectrum codes and output to the SS system of Van Driest in order to ensure accuracy codes.

2) Regarding item (b)

However, the admitted art teaches the spread spectrum encoder includes a code counter coupled to the multiplexer sequentially selecting different chips of the spread spectrum codes for outputting from the multiplexer (pg. 2, lines 9-10).

One of ordinary skill in the art would have clearly recognized a code counter coupled to the multiplexer would control the data in the multiplexer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a code counter to the SS encoder of Van Driest in order to ensure accuracy of the system.

3) Regarding item (c)

However, the admitted art, teaches the spread spectrum encoder includes an exclusive-

Art Unit: 2609

OR circuit combining the outputs from the multiplexer with the data values (pg. 2, lines 14-15).

One of ordinary skill in the art would have clearly recognized that an exclusive-OR circuit combining the outputs from the multiplexer with the data values helps to invert each chip, which helps to spread the PN codes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an exclusive-OR circuit to the SS encoder of Van Driest in order to ensure accuracy of codes transmitted.

(3) with regards to claim 11;

Van Driest further discloses a spread spectrum encoder (fig. 204). Van Driest further discloses all of the subject matter as described above except for (a) specifically teaching that the spread spectrum decoder includes a storage device used for storing one or more reference spread spectrum codes.

(b) specifically teaching that a sampling circuit taking samples of the spread spectrum encoded data stream and comparing the samples with the reference spread spectrum codes.

1) Regarding item (a)

However, the admitted art teaches the spread spectrum encoder (fig. 22). The spread spectrum decoder includes a storage device used for storing one or more reference spread spectrum codes (fig. 3, 40, pg2, lines 20-21)

One of ordinary skill in the art would have clearly recognized that a storage device used for storing one or more reference spread spectrum codes would have reserved the

Art Unit: 2609

codes and later generated by shift register later.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a storage device in the decoder to the SS system of Van Driest in order to have codes as needed or required by the shift register.

2) Regarding item (b)

However, the admitted art, teaches the spread spectrum encoder (fig. 22) teaches that a sampling circuit taking samples of the spread spectrum encoded data stream and comparing the samples with the reference spread spectrum codes (pg.2, lines 21-22) (pg.2, lines 25-26).

One of ordinary skill in the art would have clearly recognized that a sampling circuit taking samples of the spread spectrum encoded data stream and comparing the samples with the reference spread spectrum codes would have help to determine if accurate data was received.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a sampling circuit taking samples of the spread spectrum encoded data stream and comparing the samples with the reference spread spectrum to the SS system of Van Driest in order to ensure security.

(4) with regards to claim 12;

Van Driest further discloses a spread spectrum encoder (fig. 204). Van Driest further discloses all of the subject matter as described above except for specifically teaching that the spread spectrum encoder includes a match counter counting a number of chips for the reference spread spectrum codes that match and mismatch the samples

Art Unit: 2609

taken by the sampling circuit and identifying data values according to the number of counted matches and mismatches.

However the admitted art, teaches the spread spectrum encoder (fig. 2) that includes a match counter (pg.3, lines 5-7).

One of ordinary skill in the art would have clearly recognized that a match counter coupled would help control the data. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a match counter to the SS system of Van Driest in order to ensure that adequate data was transmitted.

Allowable Subject Matter

7. Claims 2,3, 7, 8,13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Claim 2 is allowable since the prior art of record does not teach or suggest the slip encoder includes a slip counter that delays the spread spectrum encoder from transmitting spread spectrum codes for a number of clock periods corresponding with associated data values

Claim 3 is allowable since the prior art of record does not teach or suggest the slip encoder inserts a slip pattern between adjacent spread spectrum codes while being delayed by the slip counter.

Claim 7 is allowable since the prior art of record does not teach or suggest

Art Unit: 2609

a data inverter converting a sequence of bits representing selected data values into lesser inverted data values, the slip encoder varying the spacing between some spread spectrum codes according to the inverted data values.

Claim 8 is allowable since the prior art of record does not teach or suggest a header in the encoded data stream identifies the inverted data values .

Claim 13 is allowable since the prior art of record does not teach or suggest the slip decoder includes a slip counter that identifies an amount of time between the data values identified by the match counter.

Claim 14 is allowable since the prior art of record does not teach or suggest the slip counter subtracts a transmit time value associated with transmitting the spread spectrum codes from the identified time between data values.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Van Driest (US 6115411) discloses a system and method for spread spectrum code position modulation and wireless local area network employing the same.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Tayong whose telephone number is 571-270-1675. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lui Shuwang can be reached on 571-272-3036. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Helene Tayong

2/5/07



SHUWANG LIU
SUPERVISORY PATENT EXAMINER